Apple takes gulp of strong, glossy Liquidmetal

August 11 2010, By PETER SVENSSON , AP Technology Writer

This product image provided by Omega, shows an Omega Seamaster Planet Ocean Liquidmetal Limited Edition watch, which has a bezel made of Liquidmetal alloy. (AP Photo/Omega)

(AP) -- Apple Inc. is getting exclusive access to an exotic metallic material that could provide it with shiny, super-tough computer and phone casings.

Liquidmetal Technologies Inc., a Caltech spinoff in Rancho Santa Margarita, Calif., filed a regulatory notice recently that it's granted Apple a perpetual, exclusive license to use its technology in consumer electronics. Liquidmetal retains the rights for other applications.

Apple isn't saying anything about the deal, and it's far from certain that the material will ever make it into its products. Though it matches the sleek Apple aesthetic, it's prohibitively expensive.

The name "Liquidmetal" brings to mind the silvery, shapeshifting villain of the "Terminator 2" movie, but the company's products are somewhat less dramatic. It mixes molten metal alloys in such a way that, when they cool, the structure of the material is more similar to glass than metal.

The materials aren't translucent, but they have other interesting benefits.

One is that they can be cast so precisely that they need little or no machining afterward. Regular metals shrink as they cool, which means they lose contact with the die and need polishing for a smoothness.

"Metallic glass" can also be very hard. Hard materials are often brittle, like glass, and that was a problem with early alloys. Liquidmetal CEO Thomas Steipp said the company has figured out how to make tougher variants, much like Pyrex glass is tougher than regular glass.

Apple is big on using metal in its designs - virtually every Mac is clad in aluminum, except for the cheapest MacBook. It's even started making the bodies for its laptops and Mac mini desktop computers out of single, big chunks of aluminum that it then hollows out. With Liquidmetal, that time-consuming process could conceivably be replaced with casting. Aluminum is also a relatively soft metal, prone to denting, scratching and scuffing.

However, Liquidmetal is still very expensive because of it needs exotic raw materials, including beryllium. Some Liquidmetal alloys contain large amounts of platinum, which costs $1,500 an ounce. The alloys have gone into luxury watches, luxury phones, medical devices and some sporting gear, such as tennis rackets and skis, but they are far from being mass-market materials.

Steipp said he could not say what Apple might use the materials for. Neither company disclosed the value of the deal, but Liquidmetal seems

to have gotten a shot in the arm from it. It hasn't filed a financial statement since last year, but Steipp, an experienced technology executive, was appointed five days after the deal was announced.

"I believe there's an opportunity for Liquidmetal to be a catalyst for changing the way that product designers think about building their products. It's that different," Steipp said. "We have to prove that, but certainly from what I've seen as technology executive evaluating the technology before I came in ... we've made a lot of progress over the last eight years."